



Fermilab

May 4, 2000

Harry Weerts
John Womersley
D0
MS 357

Dear Harry and John,

Thank you for the presentation on the status of the D0 upgrade and Rich Partridge's presentation on your initial plans for Run IIb to the Physics Advisory Committee (PAC) at their recent meeting. The PAC is encouraged by the strong commitment of the CDF and D0 collaborations to meeting the March 1, 2001 data-taking startup for Run II.

The Committee discussed Run IIb and had the following comments:

Both collaborations have taken initial steps towards an R&D program for a high luminosity Run IIb. The Committee encourages them to continue developing plans for the minimal upgrades required for continued operations up to an integrated luminosity of at least 15 fb⁻¹.

The Committee is particularly concerned that both collaborations move rapidly to identify the long lead time components of these upgrade plans.

The PAC had specific questions and requests for D0 which follow:

The Committee encourages D0 to develop its R&D program for Run IIb. This includes developing plans to begin R&D of a silicon layer 0, and of testing the practicality of sandwiching two single-sided silicon strips as eventual replacements for layers 1/2. The production of spare fiber cylinders for the inner layers of the fiber tracker sounds prudent, and the Committee encourages further development of this idea. The Committee would like to be kept updated on these activities.

The Committee would like a more detailed discussion from D0 on a possible total replacement of their silicon system, should their layers 1, 2, and 3 become inoperative. In the case where only damaged elements are replaced, the Committee would like more details on how this operation would be performed and on the difficulties involved. The Committee would also like to hear more about the level of radiation damage expected in the inner regions of the silicon disks, and how this will affect the physics output.

The Committee would like to be kept informed about the potential SIFT chip problem for operation at 132 nsec.

You may have some of the requested information already available - if so, please provide it to us by June 1 so that we may forward it to the PAC. Otherwise, please be prepared to submit documents describing the Run IIb status and plans for the fall meeting of the PAC, dates to be announced.

Sincerely,



Michael Witherell

cc: K. Stanfield
M. Shaevitz
S. Holmes
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